

ABSTRACT OF THE DISCLOSURE

[0032] A sensor includes a gain stage with a differential amplifier with an adjustable gain. The differential amplifier may change its gain in response to the magnitude of a signal readout from the pixel array. The differential amplifier includes an input transistor with an adjustable transconductance. A transconductance controller can change the bias currents supplied to one or more sets of parallel transistors in the input transistor and consequently change the transconductance, and power consumption, of the input transistor. The transconductance controller can select a transconductance setting that is associated with a selected gain setting in order to more efficiently match the power consumption of the amplifier to its gain.